Instructions for use

turboMAX plus, thermoCOMPACT

benchmark™
The code of practice for the installation, commissioning &servicing of central heating systems

824 E, 828 E,
837 E

615 E, 620 E
624 E, 628 E
637 E

GB

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1 General

Thank you for choosing a Vaillant boiler. The information given in this booklet will enable you to obtain the best performance from your boiler.

turboMAX plus provides both central heating and domestic hot water, with the domestic hot water supplied directly from the boiler. The boiler will operate automatically to provide domestic hot water whenever a hot water tap is opened, and automatically adjusts to meet the demand for both central heating and domestic hot water in the most economical way.

thermoCOMPACT provides central heating and domestic hot water where a separate indirect hot water cylinder is also incorparated to the system. The turboMAX/ thermoCOMPACT range of boilers have a SEDBUK band 'D' rating.

If, after reading these instructions, you have any questions on the operation of the boiler, please contact either your installer or Vaillant Technical Department.

Key to symbols

Important Note

This symbol is used to indicate important instructions.

- This symbol is used to indicate a required step.

Liability

We can accept no liability whatsoever for damage or injury resulting from failure to observe these instructions.

Specified use

Vaillant turboMAX plus and thermoCOMPACT boilers are made to fulfil the latest technical specifications and official safety regulations. These appliances are designed as boilers for use in central heating and hot water supply systems. thermoCOMPACT boilers only supply domestic hot water where a separate indirect hot water cylinder is also incorparated to the system. If the appliances are used for purposes other than or in excess of these specifications, this shall be classed as incorrect operation, and neither the manufacturer nor supplier will accept any liability for resulting damage or injury.
Use of this type is entirely at the owner's risk. The term „specified use" also covers observance of the operating and installation instructions, along with adherence to the servicing schedules.

EC designation

CE

The purpose of EC designation is to certify that the boiler complies with the requirements of the directives covering gasfired appliances (Council directive 90/396/EEC) and electromagnetic compatibility (Council directive 89/336/EEC). These appliances also comply with the requirements of the directive on operating efficiency (Council directive 92/42/EEC).

2 Safety instructions

Setup and adjustments
Installation and adjustment of the boiler as well as service maintenance and repair of the boiler may only be carried out by a competent person in accordance with the Gas Safety (Installation and Use) Regulations 1998. (In the U.K. „CORGI" Registered installers undertake the work to a safe and satisfactory standard). If the boiler is installed in a compartment do not obstruct any purpose provided ventilation openings, and do not use the compartment for storage purposes.

Gas smell
If you smell gas or suspect a gas leak:
- Turn off the boiler
- Do not switch any electrical switches in the hazardous area on or off
- Do not smoke in the hazardous area
- Turn off the gas supply at the gas meter
- Ventilate the room
- Consult your gas supplier, service agent or other competent person.

Modifications in and around the boiler
No modifications may be made to the following items:
- The boiler
- The gas, water and electrical supply
- The flue system
- The safety valve for the heating water
- Any structural changes around the appliance that could affect the operational safety of the boiler.

Explosive and flammable materials
Do not use or store any explosive or highly flammable materials (e.g. gasoline, paper or paint) near to the appliance.

Inspection
The boiler should be serviced annually. We recommend that you sign a service agreement with your service agent or Vaillant Ltd.

3 Factory guarantee

Our confidence in the quality of craftmanship and performance of our products is demonstrated by the Vaillant two year guarantee.

During the first year from installation the guarantee covers your boiler against manufacturing defects for both parts and labour. In order to extend this guarantee to the second year from installation all you have to do is ensure that your boiler receives a service when it is a year old. (Please note that the cost of the service is not included in the guarantee).

Important to qualify for your two year guarantee:
The boiler must be serviced either by Vaillant Ltd. or another competent servicing company (CORGI registered) within one year of the installation date and the details recorded in the "Installation, Commissioning and Service Record Log Book" (this log book should have been completed and left with you by your installer). Please note that the cost of the service is not included in the guarantee.

Registering with us
Registration is simple. Just complete the Guarantee Registration Card and return to Vaillant within 30 days of installation. Your details will then be automatically registered within the Vaillant scheme.
Note: No receipt will be issued.

Immediate help
If your Vaillant boiler develops a fault your first action should be to contact your installer, as his professional assessment is needed under the terms of our Guarantee. If you are unable to contact your installer, phone Vaillant Service Solutions: 0870 6060 777.

benchmark™
The code of practice for the installation, commissioning &servicing of central heating systems

Vaillant is a member of the Benchmark initiative and fully supports the aims of the programme. Benchmark has been introduced to improve the standards of installation and commissioning of central heating systems in the UK and to encourage the regular servicing of all central heating systems to ensure safety and efficiency.

4 Operation

Overview
turboMAX plus

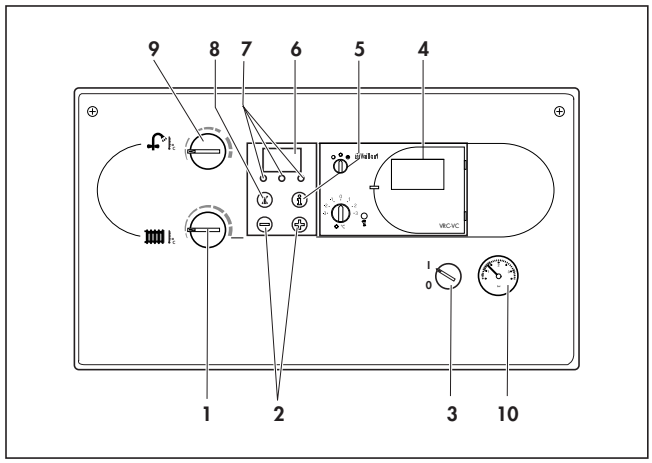

Fig. B.1a: Operating elements turboMAX plus

Operating controls
For access to the controls press the upper middle of the lower front panel and drop it down. The following can be seen:

1 Maximum radiator temperature control
2 The „+“ and „-“ buttons for the display panel
3 Main ON/OFF control
4 Built in control/timer module (if fitted)
5 The „i“ information button
6 Boiler display
7 Indicator lights to display the current operating mode
8 „Reset“ button
9 Maximum hot water temperature control and warm-start ON/OFF control
10 Pressure gauge displaying the pressure in the heating system

thermoCOMPACT

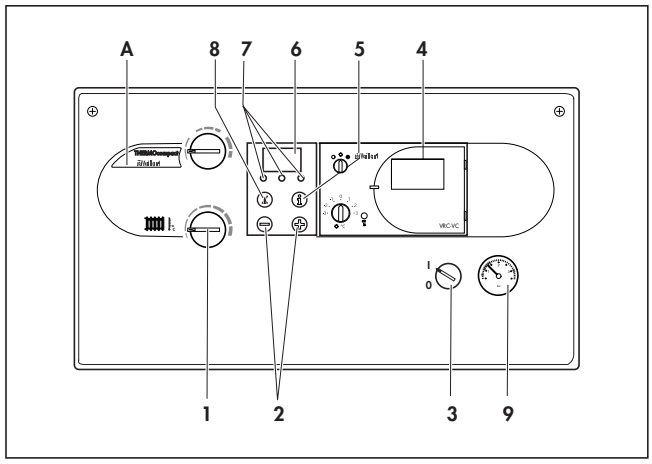

Fig. B.1b: Operating elements thermoCOMPACT

You can identify a thermoCOMPACT boiler by the sticker which is situated at the top left hand side of the control panel (see A, Fig. 1.b)

Operating controls
For access to the controls press the upper middle of the lower front panel and drop it down. The following can be seen:

1 Maximum radiator temperature control
2 The „+“ and „-“ buttons for the display panel
3 Main ON/OFF control
4 Built in control/timer module (if fitted)
5 The „i“ information button
6 Boiler display
7 Indicator lights to display the current operating mode
8 „Reset“ button
9 Pressure gauge displaying the pressure in the heating system

Indicator lights/boiler display
turboMAX plus and thermoCOMPACT boilers have an advanced multifunction boiler display (1). When the main ON/OFF control is in the „ON“ position the display will normally show the temperature of water in the boiler circuit (45 °C in the example), which confirms that the boiler is functioning correctly.

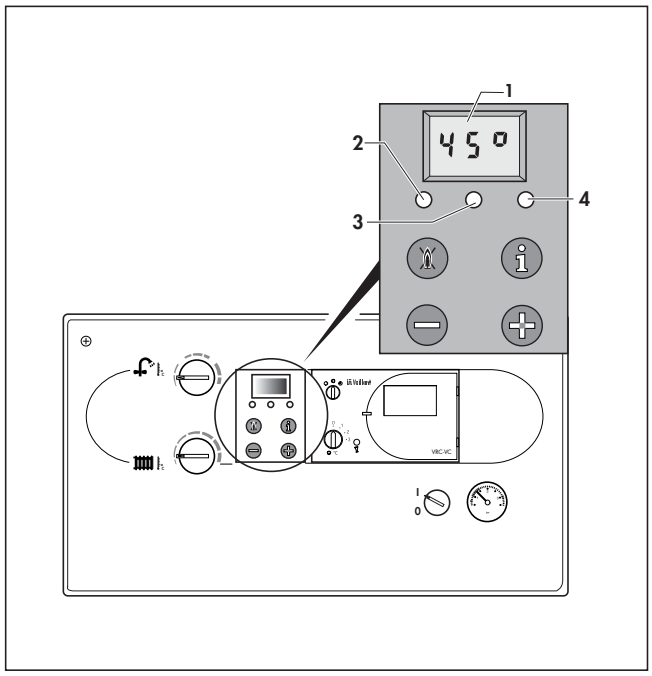

Fig. B.2: LED displays

1 In the unlikely event of a fault developing which prevents the boiler from operating, the display may show a fault code.
2 Red indicator
Illuminated = Boiler has locked out
3 Yellow indicator
Illuminated = Main burner ignited

4 turboMAX plus
Green warmstart indicator (3) Illuminated = Warmstart switched ON
Not illuminated = Warmstart is switched OFF and there is no demand for hot water
Flashing = There is either a demand for hot water or warmstart
5 thermoCOMPACT
Green indicator (3) is illuminated but has no function

Initial checks before turning ON
Open the service valves

- Ensure the cold water service valve is open. This can be checked by opening a hot water tap and ensuring water flows.
- Ensure that the service valves in the heating flow and return (2 and 1) and the gas service valve (3) are open.

The flow, return and gas service valves are open when the line marking has the same direction as the pipe.

- The pressure relief valve (4) is provided for safety reasons and must not be interfered with.

Note:
A bottom cover is fitted to the appliance. The service valves can be seen through the cover.

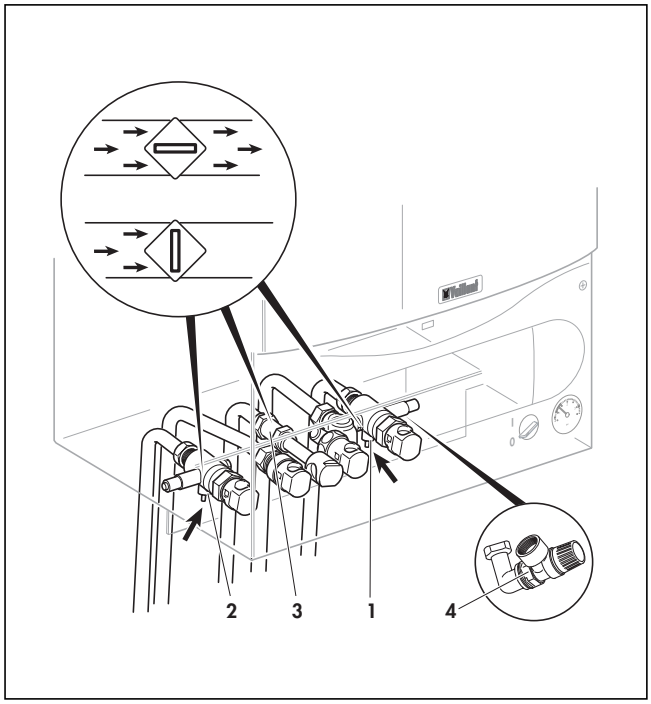

Fig. B.3: Opening service valves

picture shows a turboMAX plus boiler. Check the water contents

- Check the water contents of the system on the pressure gauge (1).
The needle on the pressure gauge should be within the green band (between 1 and 1.5 bar). If the needle displays a value below 0.8 bar when the appliance is cold, follow the instructions left by your installer to refill the system. Alternatively, your installer should be called to refill the system.

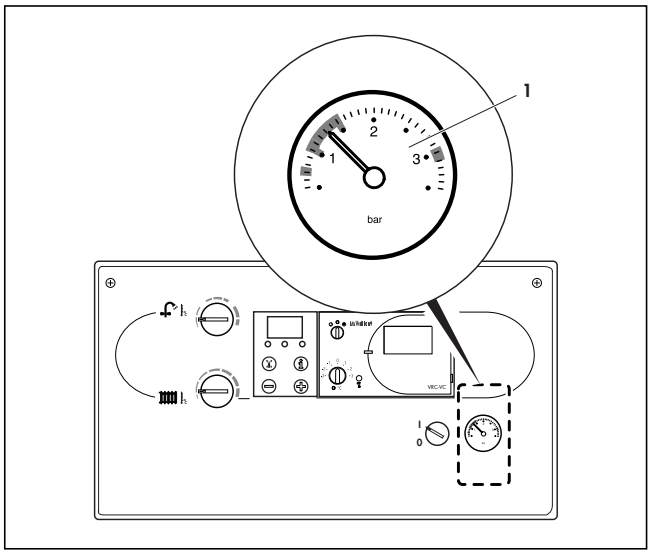

Fig. B.4: Checking the water level

Domestic hot water operation (turboMAX plus only)

The boiler should only be used when the heating system contains water. Use of the boiler without water may cause damage to the boiler or its components.

Setting the maximum domestic hot water temperature control

- Turn the main switch (2) to the „I“ position.
- The display will show the boiler flow temperature which indicates electrical power to the boiler.
- The domestic hot water temperature can be adjusted using the hot water temperature control (3).
- Turn the control clockwise to increase the temperature and anti-clockwise to decrease thetemperature.

As a guide for normal circumstances set the knob to the one o´clock position.

Note:
This control adjusts the maximum domestic hot water temperature. If adjusting the control upwards appears to have no effect on the temperature, then the boiler is already operating at full output for the selected flow rate.

If you live in a hard water area please do not set the control knob above the mid (12 o´clock) position to prevent excessiv scale formation (fig. B.5).

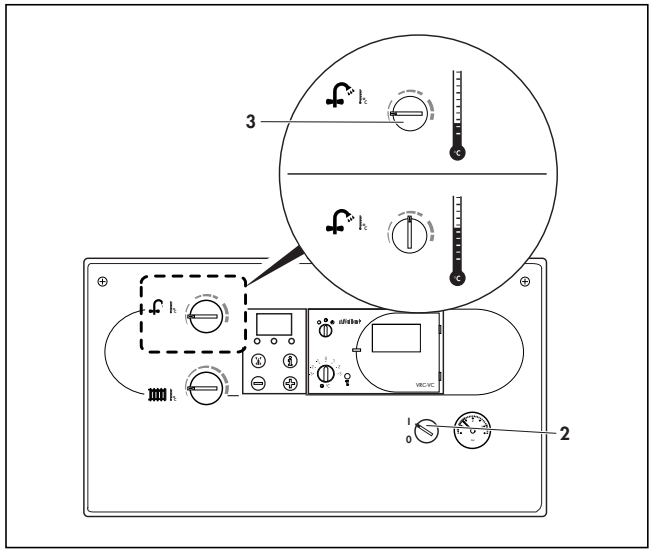

Fig. B.5: Domestic hot water supply

Warmstart operation (turboMAX plus only)
The warmstart facility provides instantaneous delivery of domestic hot water from the turboMAX plus boiler. When the warmstart system is switched ON the boiler will automatically light periodically to maintain the internal temperature of the boiler at approximately 40 °C. When the warmstart system is switched OFF a short delay may be experienced in obtaining hot water at the tap.

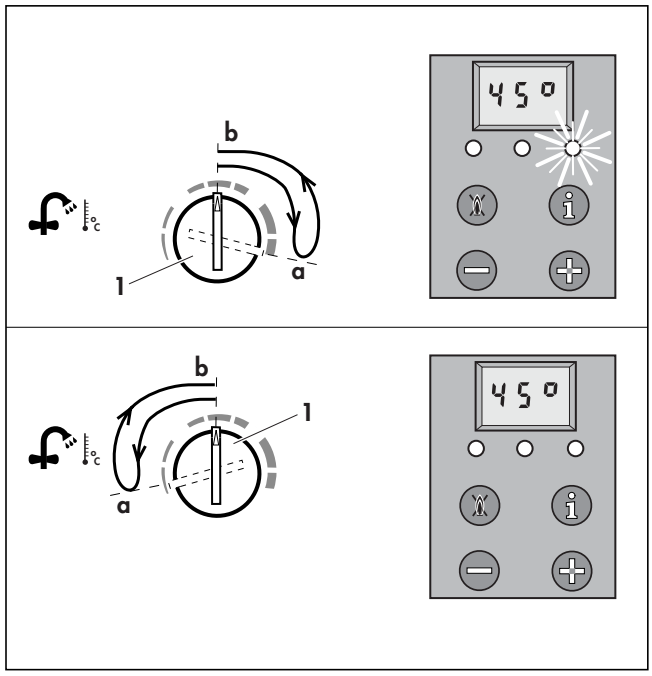

Fig. B.6: Switching the warm start on and off

- The warmstart system is activated by turning the hot water temperature control knob (1) all the way to the very right for a short time. The green indicator light will now illuminate. Reset the hot water temperature control knob to the desired setting. The boiler will now provide instantaneous delivery of hot water directly when a hot water tap is turned on.
- The warmstart system is switched off by turning the hot water temperature control knob (1) all the way to the very left for a short time. The green indicator light is not illuminated. Reset the hot water temperature control knob to the desired setting.

Note:
Irrespective of whether the warmstart facility is switched on or off, the boiler will automatically operate to provide hot water whenever a hot water tap is opened.

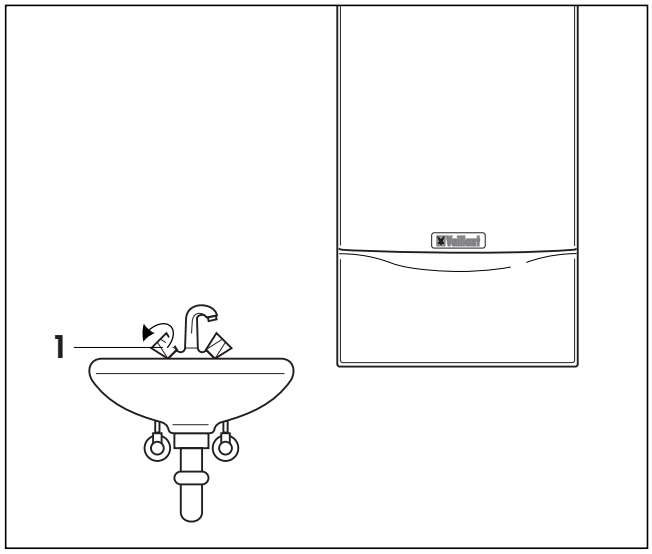

Fig. B.7: Drawing off hot water

Obtaining hot water (turboMAX plus only)
On opening a hot water tap (1) at a supply point (basin, shower, bath, etc.) the turboMAX pLus boiler will automatically operate to deliver hot water.
On closing the tap the boiler switches OFF (or continues to operate for central heating if required). The pump and fan will continue to operate for a short period.

Heating operation

Setting the maximum radiator temperature control

- Turn the main switch (1) to the „I“ position.
- Set the maximum radiator temperature control to the desired setting using the control knob (2). We recommend the following settings:
  - Left setting during spring and autumn,
  - Middle setting during mild winter,
  - Right setting during cold winter.

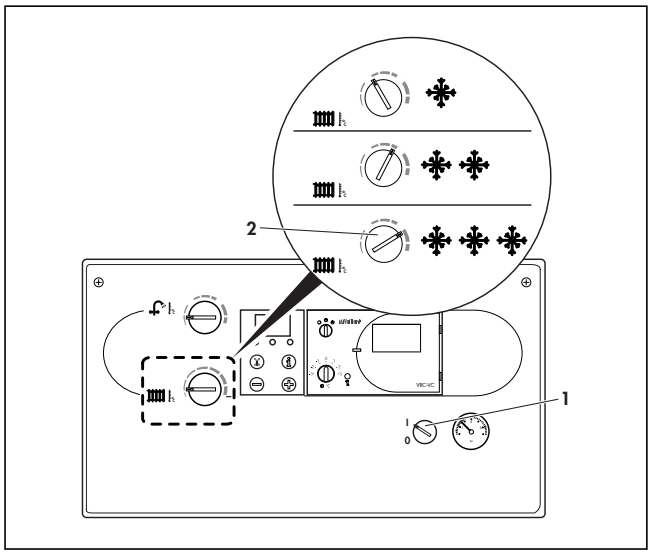

Fig. B.8: Setting the flow temperature

Setting the external controls

- Set the room thermostat (3) and/or the thermostatic radiator valves (4) according to the instructions supplied with the control(s).

Hint!
Vaillant offer room thermostat/time control accessories which give accurate and economic room temperature control as well as improved comfort. Ask your installer!

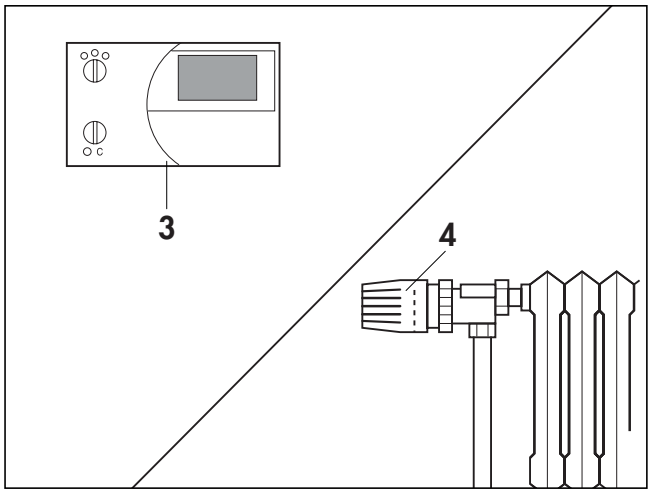

Fig. B.9: Setting the external controller

The boiler will now operate automatically to provide central heating for the conditions selected on the external controls (turboMAX plus will also provide domestic hot water on demand). Whilst the boiler is operating, the boiler display (fig. B.2) indicates the temperature of the water within the boiler circuit. After the boiler stops operating the pump and fan will continue to operate for a short period to fully disperse the heat from the boiler.

The boiler incorporates an anti-cycling economiser control to prevent energy wasteful ON and OFF operation of the boiler for short periods when in the central heating mode. When turning the room thermostat to a higher setting there may therefore be a short delay before the boiler operates.

Resetting the appliance

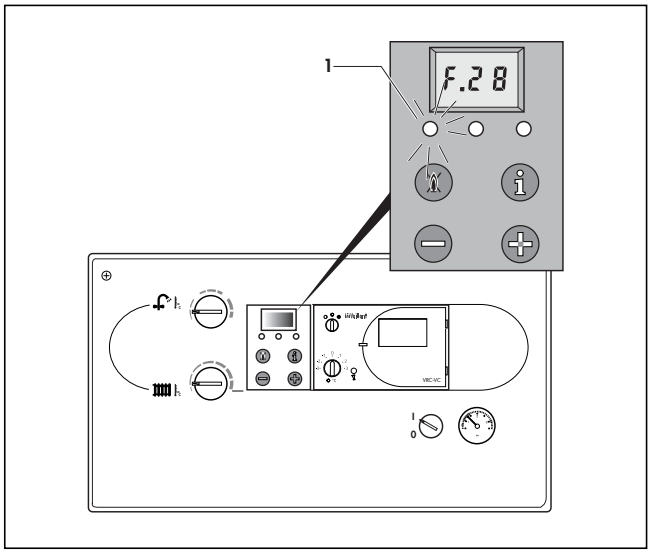

Fig. B.10: Reset

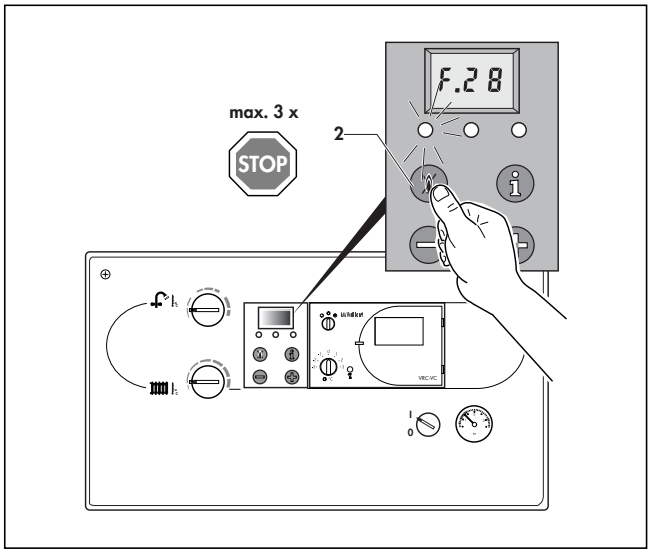

Fig. B.11: Reset

When a hot water tap (turboMAX plus only) or the central heating system requires heat, the boiler automatically ignites and starts to operate. If the automatic ignition is not successful within 10 seconds, then the boiler does not go into operation and switches to „Lock out".
This is indicated visually by the red indicator light (1) and the displaying of fault code „F.28" or „F.29" (flame extinguished during operation). A new attempt to ignite the flame can then only be performed after pressing the „Reset" button.

- Press the „Reset" button (2) and hold for approx. 1 second.

If the boiler still shuts off after a third attempt, then please consult your installer or Vaillant Service Solutions.

The boiler also switches to „Fault" when there is not enough water in the system. This fault is indicated by fault code „F 22". The boiler can only be placed back in operation after the heating system has been properly refilled with water.
In the unlikely event of any other fault developing, which prevents the boiler from operating, the display will also show other fault codes. If a fault code is displayed please contact your installer or Vaillant Service Solutions.

Note:
If contacting Vaillant Service Solutions please remember to quote the fault code, as this will help to pinpoint the fault.

Turning the boiler OFF
(turboMAX plus only)

To turn OFF the central heating only (Summer mode)

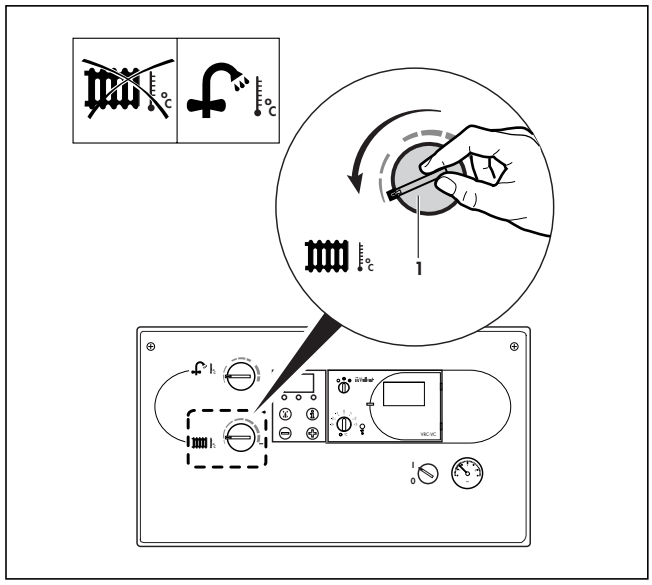

Fig. B.12: Setting the summer operating mode

- Turn the maximum radiator temperature control knob used to control the heating supply temperature (1) all the way to the left.

Hint!
You can switch off the heating operation in summer, for example, but the boiler will continue to provide domestic hot water whenever a hot water tap is opened.

To turn OFF central heating and hot water for short periods of time

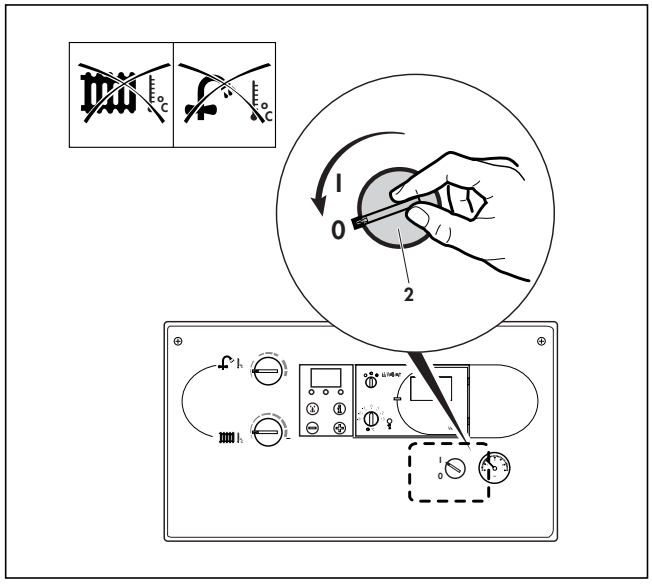

Fig. B.13: Shutting down the unit completely

- Turn the main ON/OFF control (2) to the „0" position.

If you want to turn the turboMAX plus boiler OFF for a longer period of time (e.g. holidays), and there is no danger of frost, then you should also turn off the gas supply, the cold water service valve and the electrical supply. Please note the frost protection hints in this regard .

Turning the boiler OFF
(thermoCOMPACT only)

To turn OFF the central heating
- Turn the maximum radiator temperature control knob used to control the heating supply temperature (1) all the way to the left.

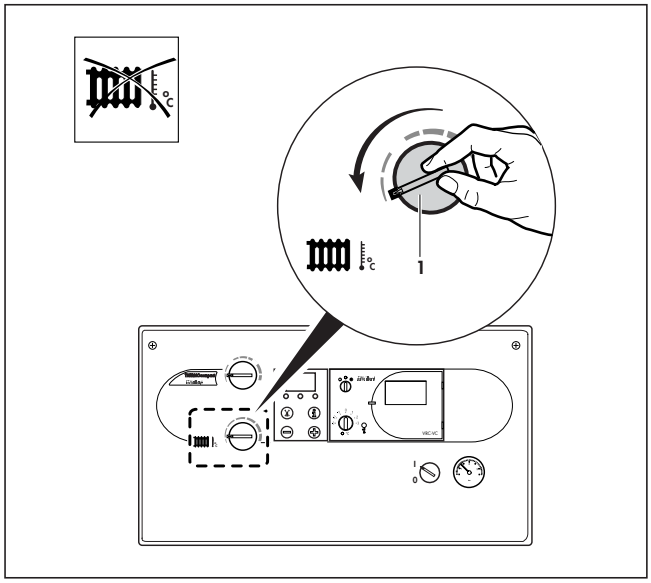

Fig. B.14: Setting the summer operating mode

To turn boiler OFF for short periods of time
- Turn the main ON/OFF control (2) to the „0“ position.

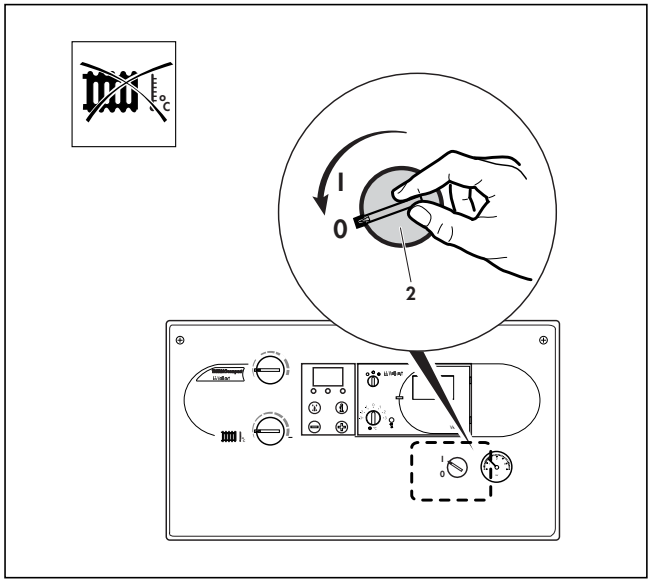

Fig. B.15: Shutting down the unit completely

Do not turn the thermoCOMPACT boiler OFF if a hot water cylinder is also incorporated in the system unless there is no demand for domestic hot water.

Care and maintenance

Clean the outer casing of your boiler with a damp cloth and a little soap. Do not use abrasive or solvent cleaning agents that may damage the case or the plastic fittings. The appliance should be serviced at least once per year. To ensure regular servicing, it is strongly recommended that arrangements are made with your service agent or Vaillant Ltd. For further details please contact Vaillant Service Solutions: 0870 6060777.

Frost protection

Your boiler is equipped with a frost protection function: If the heating water temperature drops below 5 °C when the main switch is ON, then the boiler goes into operation and heats the boiler circuit to approx. 30 °C.

It cannot be guaranteed that water will circulate throughout the entire heating system.

If the boiler is not operated for several hours during very cold weather there is therefore the possibility of the system freezing. Please ensure that if you are absent during a period of frost the central heating remains in operation and all rooms are kept above freezing point. It must be remembered, however, that the boiler will be automatically switched off by the built in monitoring devices if certain faults occur, e.g. interruption in the gas or electricity supply or faults in the flue gas system. To overcome this possibility you can drain both the central heating system and boiler.

Frost protection and monitoring devices can only function when the main switch of the unit is set to the „I“ position and the boiler is connected to the electrical supply.

Troubleshooting

In the unlikely event that a problem occurs with the operation of the turboMAX plus or thermoCOMPACT boiler, the following points should be checked:

1. Boiler fails to operate:
- Is the gas supply turned on? (see page 5)
- Is the water supply turned on? (see page 5)
- Is there enough water in the heating system? (see page 5)
- Is the electrical supply switched on?
- Is the main ON/OFF control in the „On" position? (switch position „I") (see page 5)
- Is the burner lock out indicator light illuminated? (see page 6)

2. Hot water operates but no central heating (turboMAX plus only)
- Is the heating turned on? (see page 7/8).
- Are all external heating controls ON? (see page 8)

If your boiler still does not operate then please consult your installer or Vaillant Service Solutions 0870 6060 777.

Status display

(For maintenance and service work performed by your installer or service agent)
The status displays are activated by pressing the „i" button (1). The current status code, e.g. „S.34" for the frost protection mode, is shown on the display (2). Pressing the „i" button again will switch you back to the normal mode. The „+" and „-" buttons will only be used by your installer or service agent during service and maintenance work.

Display	Meaning
S.00*	No heating required
S.01*	Fan running
S.03*	Ignition sequence
S.04*	Burner ignited
S.05*	Fan and water pump over run
S.07*	Water pump over run
S.08*	Anti cycling mode (after heating operation)
S.10**	Hot water demand
S.14**	Burner ignited
S.34*	Frost protection mode

Table B.1: Status display (A complete overview of the status codes can be found in the installation instructions).

* Heating operation

** Hot water operation (turboMAX plus only)

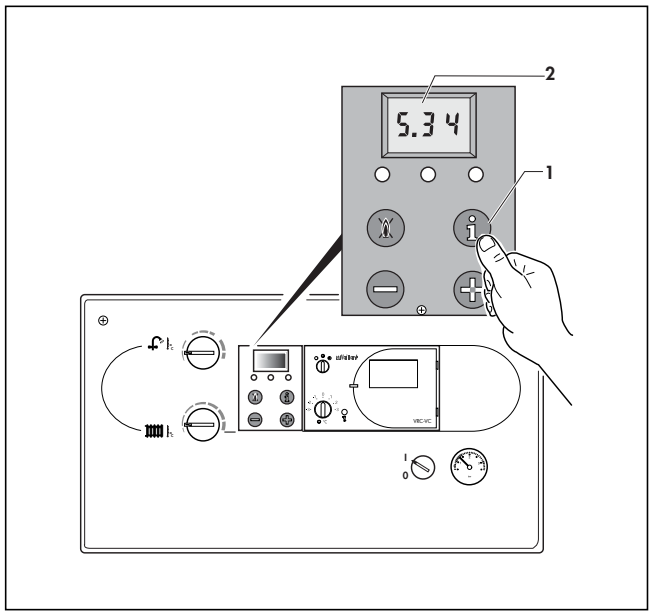

Fig. B.16: Status display

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